

NEWSLETTER

The International Neuropeptide Society

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Dear Member,

This is the first newsletter to the members of The International Neuropeptide Society and my first message to you is to say, "CONGRATULATIONS". Congratulations for being ahead of the times. Considering the enormous potential of the field, we have come only a short way. You should be proud of yourselves for having the foresight and good fortune of being the first members of The International Neuropeptide Society.

For this reason, the availability of CHARTER memberships has been extended until the end of this calendar year (1994). This will give more of you the opportunity to avail yourselves of what we think will eventually be a "historic" opportunity. If you are already a regular member, all you need to do is send an additional \$15 to Curt Sandman before the end of the year. Your beautiful certificate, designed by Fleur Strand and Susan Lee, will be sent soon afterwards.

To facilitate the keeping of the records, we shall also extend the time of the initial membership until the end of 1994. This means that your next payment of dues to The International Neuropeptide Society will be for the year 1995. Thereafter, dues will be due at the beginning of each calendar year. Charter memberships will no longer be available after 1994.

Beginning in 1995, therefore, there will be only three individual categories of membership: regular, student (including postdoctoral status), and

FELLOW. Fellowship status is designed to honor those who have done enough work to achieve international recognition. Although we are attempting to be flexible in the criteria for this category, each member elected to the ranks of fellowship so far has published at least 50 papers. There is no limit to membership in this category, and it is hoped that with time in the field most of you will eventually be so honored.

There are three types of corporate membership: silver, gold, and platinum. For the silver corporate membership, a single individual membership is included. For the gold corporate membership, two individual memberships are included, and for the platinum corporate membership, three individual memberships are included.

Presently, there are three main arms to The International Neuropeptide Society: The Winter Neuropeptide Conference, The Summer Neuropeptide Society, and The European Neuropeptide Club. An Australian arm is in the formative stages. Each arm is completely independent and will remain so.

The oldest constituent is The Winter Neuropeptide Conference. It takes its roots from a meeting held in 1976 that resulted in a supplement to the journal "Pharmacology Biochemistry & Behavior" entitled "The Neuropeptides: Pharmacology, Physiological Substrates and Behavioral Effects".



INPS Newsletter

published the same year and a book published the following year by Raven Press ("Neuropeptide Influences on the Brain and Behavior"). A summary of the last (XV) conference, at which I had the pleasure of delivering the plenary talk, is enclosed. The proceedings of this meeting will be published very soon as an Annal by the New York Academy of Sciences.

1995 will mark the fifth anniversary of the other two arms of The International Neuropeptide Society. The first meeting of The Summer Neuropeptide Conference, however, did not have an auspicious beginning - it was interrupted by a hurricane. Accordingly, it was joked that the plenary talk at the second Summer Neuropeptide Conference was actually the first to be delivered to that group.

The European Neuropeptide Club will be holding its fifth meeting in Lund in June of 1995. A brief summary of their last meeting in Strasbourg is also enclosed. There is a possibility that the bonds between this group and the two American-based groups will be cemented by the first joint meeting of this Society being held in Europe in conjunction with an anticipated future meeting of The European Neuropeptide Club.

This first formal meeting of The International Neuropeptide Society should be fun. Fun is the

most frequently used work to describe the meetings of each arm of this Society. The location of each meeting gives the first indication of this attitude. It is reinforced by attendance at any of the meetings. If you haven't been to them, you've been missing a good time as well good science.

Consistent with the informality of the meetings will be an informal bulletin board that will be initiated with the next newsletter. This will serve to acquaint your fellow members with any changes in your life. In addition to announcements such as honors and professional changes including change of address or position, it will also include personal notes such as news concerning children or mate. There also may be a separate column listing hobbies. Please start sending all such information to me.

I look forward to seeing you. In the meantime, I want to repeat my CONGRATULATIONS for your membership in The International Neuropeptide Society.

Sincerely,

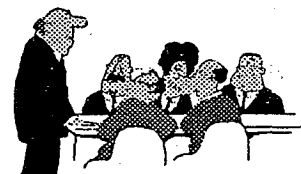
Abba J. Kastin, M.D.

Please send announcements of upcoming meetings as soon as possible to:

Dr. Fleur L. Strand
Dept. of Biology
New York University
1009 Main Building
Washington Square
New York, N.Y. 10003 U.S.A.

They will be published in *PEPTIDES* and in *INPS* Newsletters. Brief summaries of these meetings should also be submitted immediately after the conference for prompt publication.

Meeting Report



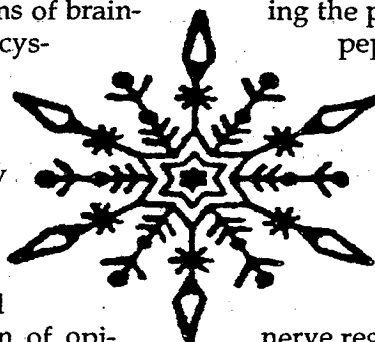
The 15th WINTER NEUROPEPTIDE CONFERENCE

"Models of Neuropeptide Action"

Breckenridge, Colorado, U.S.A. Feb. 5-9, 1994

Topics covered included a panel that discussed specificity vs redundancy of neuropeptides in various models: ingestive behavior, reward behavior, central neural regeneration/protection, and melanocortin interactions with other neuropeptides. The general consensus is that neuropeptides are highly specific, with specificity related not only to the peptide, but also to dosage, pattern and timing of administration, tissue substrate and age. A second panel used feeding behavior as a model for the actions of brain-gut peptides, showing that cholecystokinin, glucagon and bombesin all suppress food intake. In both laboratory animals and in humans with eating disorders, GHRH may be involved in regulating food intake.

The next panel considered alcohol-related behaviors as a model for investigating the contribution of opioids, arginine vasopressin, corticotropin releasing factor (CRF) and neurotensin (NT) to this syndrome. Alcohol-induced activation of the endogenous opioid system may lead to alcohol dependence; AVP may prolong ethanol tolerance; a dysregulation of forebrain CRF systems contributes to the motivational effects of alcohol withdrawal; and some ethanol actions are mediated by NT systems. Another panel provided convincing evidence of the ability of peptides to penetrate the blood-brain barrier through various saturable and non-saturable mechanisms, some acting as shuttle systems in both directions, others unidirectional. One of these may be involved in the alcohol withdrawal syndrome discussed in the previous panel.



An unusual panel considered the interrelationship between cytokines and neuropeptides; cytokines activate the HPA axis and are potent stimuli for the release of ACTH. Another model considered was that of peptide regulation during development and regeneration. The exciting factor pituitary adenylyl cyclase activating peptide (PCAP) markedly increases mammalian brain size in development; bombesin-like peptides affect normal development of multiple organs, including the pituitary gland; vasoactive intestinal peptide (VIP) promotes growth in neuroblastoma cells, involving at least two classes of VIP binding sites. Additionally, the mechanism of action of VIP in developing systems was studied through the use of a hybrid peptide of VIP and NT. Insulin-like growth factors appear to be effective stimuli for peripheral nerve regeneration.

In the last panel, maternal-fetal interactions were used as models of peptide action. The dramatic acceleration of embryonic growth induced by VIP is correlated to maternal VIP which binds to prenatal VIP receptors and regulates fetal development. VIP antagonists administered during gestation result in microcephalic offspring. In a clinically important study of women in the third trimester, it was shown that disruption of endorphin-ACTH co-release in response to stress is related to infant birth weight and gestational age at birth. Rat milk was shown to protect milk-borne peptides against enzymatic degradation. Finally, in the plenary talk, Abba Kastin presented novel concepts of peptide action derived from novel peptides of the Tyr-MIF-1 family.

The proceedings of this conference will be published as an *Annals* of the New York Academy of Sciences.

Meeting Report



THE SUMMER NEUROPEPTIDE CONFERENCE

Martha's Vineyard, Massachusetts, U.S.A. June 5-9, 1994

The meeting included ninety attendees, representing nine countries and many regions of the United States. Feedback has been extremely positive, on the high scientific quality of the meeting, the conference events which facilitated informal scientific interactions, and the lovely environment of the island resort.

The conference opened with the Keynote Lecture by Claes Wahlestedt, Astra Pain Research Unit, on the exciting approach of antisense to block neuropeptide receptor actions in vivo. The applications of the antisense strategy were discussed for neuropeptide Y, opiate receptors, and vasoactive intestinal peptide, in this lecture and others, throughout the meeting.

Six symposia presented major new advances in neuropeptide research. The Molecular Biology of Opioid Receptors was chaired by Terry Reisine, University of Pennsylvania. Lectures were presented by Dr. Reisine on ligand binding domains of the cloned opioid receptor subtypes; Phil Portoghesi, University of Minnesota, on the modeling of nonpeptide ligands selective for the opioid receptor subtypes; Marie-Francoise Chesselet, University of Pennsylvania, on the regulation of messenger RNA for the mu receptor in the basal ganglia; Gavril Pasternak, Cornell University, on antisense sequences which blocked morphine-induced nociception; Charles Chavkin, University of Washington, on electrophysiological studies of mu and delta opioid receptors expressed in oocytes; and Hank Yamamura, University of Arizona, on cloning of the human delta opioid receptor cDNA.

Astrocytes as a Site of Action for Neuropeptide Research was chaired by Illana Gozes, Tel Aviv University. Lectures were presented by Doug Brenneman, National Institute of Child Health and Human Development, on neurotrophic actions of vasoactive intestinal peptide; Joan Schwartz, National Institute of Neurological Disorders and Stroke, on trophic actions of neuropep-

tides from cerebellar astrocytes; Terry Moody, National Cancer Institute, on epidermal growth factor, TGF-alpha, and bombesin in cancer cell growth; and Dr. Gozes on the retarding effects of a new vasoactive intestinal peptide receptor antagonist during development. Neurophysiological Actions of Endogenous Neuropeptides was the topic of the annual session addressing the fundamental question, "How Functionally Important are Endogenous Neuropeptides?" The session was chaired by Rita Valentino, Hahnemann University. Lectures were presented by Kurt Rasmussen, Lilly Research Laboratories, on cholecystokinin-B receptor antagonists reducing the activity of midbrain dopamine neurons; Dr. Valentino on antagonists of corticotropin releasing factor blocking stress-induced activation of the locus coeruleus; Phil Boden, Parke-Davis Neuroscience Centre, on non-peptide antagonists selectively blocking the activation of tachykinin receptor subtypes; and Zsuzsanna Wiesenfeld-Hallin, Karolinska Institute, on galanin and cholecystokinin antagonists potentiating morphine analgesia.

Central Nervous System Actions of Galanin was chaired by Jim Koenig, Immunobiology Research Institute. Dr. Koenig presented the neuroendocrinological actions of galanin on the release of pituitary hormones. Sarah Leibowitz, Rockefeller University, described the role of galanin on ingestion of fat during macronutrient selection; Yezhekel Ben-Ari, INSERM, showed the inhibitory actions of galanin on glutamate release in hippocampal slices; Jacqueline Crawley, National Institute of Mental Health, described the inhibitory actions of galanin in memory tasks; Elliott Mufson, Rush Presbyterian Medical Center, illustrated galanin hyperinnervation of cholinergic basal forebrain neurons in Alzheimer's disease; and Tiit Land, Stockholm University, presented the strategy and development of the first galanin receptor antagonists.



Meeting Report

Steroid-Neuropeptide Interactions was chaired by Tom Insel, National Institute of Mental Health. Lectures were presented by Geert De Vries, University of Massachusetts, on sexual dimorphism in the neuroanatomy of vasopressin; Dan Dorsa, University of Washington, on the mechanisms of estrogen regulation of oxytocin receptor expression; Dr. Insel on gonadal steroid regulation of hypothalamic oxytocin gene expression; and Craig Ferris, University of Massachusetts, on vasopressin-induced flank marking behaviors.

Strategies for the Development of Peptidomimetic Drugs was chaired by David Middlemiss, Glaxo Research and Development. Alan Naylor, Glaxo Research and Development, described the several approaches being used to develop lead compounds such as substance P receptor antagonists; Annette Doherty, Parke-Davis, showed the strategies used to develop an endothelin-1 receptor antagonist and cholecystokinin-B receptor antagonists; Ray Baker, Merck Sharp and Dohme, described advances in the development of cholecystokinin-B antagonists and substance P antagonists; Stephen de Laszlo, Merck Sharp and Dohme, presented the strategies used to develop angiotensin-I and angiotensin-II antagonists from a published lead compound; and Peter Gund, Molecular Simulations Inc., illustrated molecular modeling programs available for designing new compounds based on receptor properties.

The Wine and Cheese Poster Session at the Kelley House Inn included outstanding posters on the topics of opioid receptors in motoneurons innervating skeletal muscle, characterization of the human galanin receptor, cloning of a fifth melanocortin receptor subtype, development of a new neuropeptide Y-1 agonist, synthesis of neuropeptides in human pituitary tumors, expres-

sion of the oxytocin gene in pituitary and hypothalamus, localization of atrial natriuretic peptide and brain natriuretic peptide in astrocytes, interactions between estrogen and expression of the human galanin gene, interactions of cholecystokinin and opioid agonists, regulation of second messengers by tachykinins, and individual differences in sucrose consumption in response to cholecystokinin antagonists.

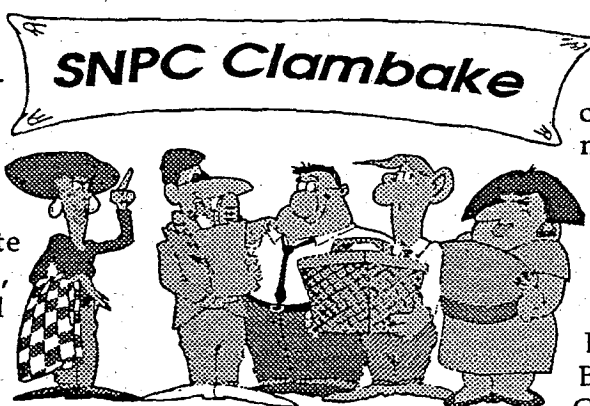
Five Travel Awards to Graduate Students and Postdoctoral Fellows were conveyed with honor at the conference banquet. Formal social events included the Opening Reception, Clambake Dinner, and Conference Banquet, at the Harborview Hotel. Informal events included tours of the

island, historic walking tours of Edgartown, sailing, shopping, bicycling, beaches, and enjoyment of the many fine area restaurants.

Contributors who made the conference possible included Abbott Laboratories, Amgen Inc., Bachem Bioscience Inc., Burroughs Wellcome Company, Cephalon, Inc.,

International Society for Neurochemistry, Merck Research Laboratories, National Institute on Aging, National Institute on Drug Abuse, Parke-Davis Pharmaceutical Research, Peptor Limited, Pfizer Central Research, and The Council for Tobacco Research.

The 1995 Summer Neuropeptide Conference is planned for June 25th to June 29th at the Martha's Vineyard location. The Conference Co-Organizers, Dr. Jacqueline Crawley, National Institute of Mental Health, and Dr. Stafford McLean, Pfizer Central Research, the Financial Coordinator, Dr. Louis Hersh, University of Kentucky, and the International Coordinator, Dr. Paul Cohen, Universite Pierre et Marie Curie, have agreed to continue in their organizational roles next year. We look forward to another great meeting, and hope you will join us!



Meeting Report

THE EUROPEAN NEUROPEPTIDE CLUB

Strasbourg, FRANCE April 13-15, 1994



The 4th meeting of the ENC received warm support from its members with about 180 communications divided into invited lectures, oral presentations, and posters. The abstracts were published in a supplement to the April issue of *Neuropeptides* (26: 1-72, 1994).

The sessions included the following topics:

1. Receptors of neuropeptides: ligand-receptor interaction
2. Metabolism of peptides and peptide chemistry
3. Neurokinin receptors
4. Development of peptide antagonists
5. Central and peripheral roles of neuropeptides

State of the art lectures on:

CGRP
NPY
CCK
GALANIN
SOMATOSTATIN

Facilitation of attendance at the meeting was provided to students and scientists from economically disadvantaged countries through a Travel Scholarship Program.

Future ENC meetings are planned for Lund, Sweden, June 4-7, 1995 and Pecs, Hungary, in 1996.

1994 NEUROPEPTIDE MEETINGS AFFILIATED WITH INPS

Winter Neuropeptide Conference

February 5-9, 1994

Breckenridge, Colorado U.S.A. - summary enclosed

European Neuropeptide Club

April 13-15, 1994

Strasbourg, FRANCE - summary enclosed

Summer Neuropeptide Conference

June 5-9, 1994

Martha's Vineyard, Massachusetts U.S.A. - summary enclosed

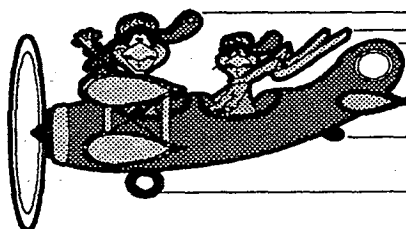
International Symposium on Gastrointestinal Hormones

August 27-31, 1994

Santa Barbara, California U.S.A.

TOPICS: Gastrointestinal peptides and their receptors including:

physiology and biochemistry of hormones;
growth factors and cytokines;
receptor structure and signal transduction mechanisms;
development and use of receptor antagonists.



Announcements

1995 NEUROPEPTIDE MEETINGS AFFILIATED WITH INPS

EUROPEAN NEUROPEPTIDE CLUB & AUSTRIAN NEUROSCIENCE ASSOCIATION

January 22-25, 1995 - Seefeld, AUSTRIA

Contact : A. Saria

Neurochemical Unit, Dept. Psychiatry

University Hospital Innsbruck

Anichstr. 35. A-6020

Innsbruck, Austria

FAX: 43-512-504-3710

Topics: Neuropeptides in intestinal disease; in degenerative brain disease; in diseases of peripheral nerve; in clinical diagnosis. Plenary Lecturers: P. Holzer, O. Hornykiewicz, J.M. Lundberg, and E. Theodorsson.

WINTER NEUROPEPTIDE CONFERENCE

January 28-31, 1995 - Breckenridge, Colorado U.S.A.

Contact: Debra Edwards

P.O. Box 7518

Breckenridge, CO. 80424

Tel: 303-453-5970

Topics: Interleukin-1 : relation to neurodegenerative processes; Insect neuropeptides; Central vasoactive peptides: when, where and why are they secreted?; Brain circumventricular organs (CVOs): portals for peptides; Excitatory effects of corticotropin releasing hormone (CRF) on immature neurons: *in vivo*, *in vitro*-neuropathology and implications; Melanocortin receptors and functional antagonism in the pro-opiomelanocortin neuron system; Gut neuropeptides: motilin.

EUROPEAN NEUROPEPTIDE CLUB

June 4-7, 1995 - Lund University, Lund, SWEDEN

Neuropeptides '95: Implication in Health and Disease

Contact : Claes Post, Astra Draco AB

P.O. Box 34

S-221 00 Lund

SWEDEN

FAX: 46-46-33-71-90

Topics: No information as yet.

1995 NEUROPEPTIDE MEETINGS AFFILIATED WITH INPS

5th Summer Neuropeptide Conference

June 25-29, 1995 - Martha's Vineyard, Massachusetts, U.S.A.

Contact: Jacqueline N. Crawley, NIMH

Building 10, Room 4N214

Bethesda, MD. 20892 U.S.A.

FAX: 301-496-7855

Topics: No information as yet.

Tachykinins '95: From Basic Science to Clinical Applications

October 16-18, 1995 - Florence, ITALY

Contact: Fondazione Internazionale Menarini

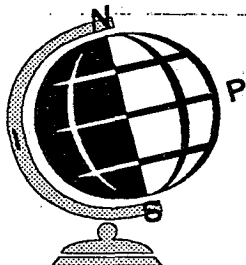
Piazza del Carmine, 4

20121 Milan, ITALY

FAX: 0039-2-804739

Topics: Molecular biology of tachykinins and tachykinin-receptors; Pharmacology of tachykinins and receptors antagonists; Tachykinins in the nervous system; Tachykinins in primary afferent neurons: central and peripheral roles; Tachykinins in the enteric nervous system; Tachykinins and the immune systems; Clinical pharmacology of tachykinins.

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To: